What is claimed is:

1. A combined battery and device apparatus comprising:

a first structure including:

a first conductive layer;

a battery including a cathode layer; an anode layer, and an electrolyte layer located between and electrically isolating the anode layer from the cathode layer, wherein the anode or the cathode or both include an intercalation material, the battery disposed such that either the cathode layer or the anode layer is in electrical contact with the first conductive layer; and

a first thin-film capacitor integrated with the battery.

2. The apparatus of claim 1, wherein the first thin-film capacitor is deposited with a major surface face-to-face against to the battery.

3. The apparatus of claim 1, wherein the battery is deposited with a major surface face-to-face on to the first thin-film capacitor.

4. The apparatus of claim 2, further comprising an integrated circuit mounted on the first thin-film capacitor and electrically connected to the battery and the capacitor.

5. The apparatus of claim 1, further comprising a substrate, the battery having a major surface adjacent face-to-face to the substrate;

wherein the first thin-film capacitor is deposited having a major surface face-to-face adjacent to the substrate, and the battery is deposited face-to-face the substrate, so the battery is beside the first capacitor on the substrate.

6. The apparatus of claim 1, wherein the first thin-film capacitor is a portion of an electrical circuit that includes:

an insulating layer adjacent to the battery; and

a plurality of electrical traces and the capacitor fromed from a common conductive layer

adjacent to the insulating layer, wherein at least one of the plurality of electrical traces contacts an electrode of the battery through the insulating layer.

7. The apparatus of claim 6, the electrical circuit further comprising an integrated circuit supported on the battery, wherein a first one of the plurality of electrical traces electrically connects the cathode of the battery to the integrated circuit, a second one of the plurality of electrical traces electrically connects the anode of the battery to the integrated circuit.

8. The apparatus of claim 1, further comprising:

an integrated circuit; and

an insulating layer adjacent to the integrated circuit, the insulating layer including a plurality of through vias, wherein the battery is adjacent to the insulating layer, wherein the cathode of the battery electrically connects to the integrated circuit though a first one of plurality of through vias, and the anode of the battery electrically connects to the integrated circuit though a second one of plurality of through vias.

9. The apparatus of claim 1, further comprising:

an integrated circuit; and

an insulating layer adjacent to the integrated circuit, the insulating layer including a plurality of through vias, wherein a cathode-conductor of the battery is adjacent to the insulating layer and electrically connects to the integrated circuit though a first one of plurality of through vias, the cathode layer of the battery is adjacent to the cathode conductor, the electrolyte layer is adjacent to the cathode layer, and the anode is adjacent to the electrolyte layer and electrically connects to the integrated circuit though a second one of plurality of through vias.

10. The apparatus of claim 1, further comprising:

an integrated circuit; and

an insulating layer adjacent to the integrated circuit, the insulating layer including a plurality of through vias, wherein a cathode-conductor of the battery is adjacent to a face of the integrated circuit opposite the insulating layer and electrically connects to the integrated circuit

though a first one of plurality of through vias, the cathode layer of the battery is adjacent to the cathode conductor, the electrolyte layer is adjacent to the cathode layer, and the anode is adjacent to the electrolyte layer and electrically connects to the integrated circuit though a second one of plurality of through vias.

11. The apparatus of claim 1, further comprising:

an insulating layer adjacent to the battery that acts as a passivation layer that protects the battery from environmental corrosion; and

a conductive layer adjacent to the insulating layer, wherein the conductive layer and a layer of the battery form the first thin-film capacitor.

12. The apparatus of claim 1, further comprising:

a substrate, the battery having a major surface adjacent face-to-face to the substrate; and

an electrical circuit having a major surface adjacent face-to-face to and electrically connected to the battery;

wherein the electrical circuit includes the first thin-film capacitor having a major surface face-to-face adjacent to the battery.

13. The apparatus of claim 12, wherein the substrate has a curved shape having a convex face and a concave face, and the battery is located on the concave face.

14. The apparatus of claim 12, wherein the substrate comprises a polymer having a melting point substantially below 700 degrees centigrade.

15. The apparatus of claim 12, wherein the substrate comprises a metal foil.

16. The apparatus of claim 12, wherein the substrate comprises a metal foil having an insulative layer between the metal foil and the first conductive layer adjacent to a first surface area of the substrate's major surface area.

17. The apparatus of claim 12, wherein the substrate comprises a ceramic.

18. The apparatus of claim 12, wherein the substrate comprises a glass.

19. The apparatus of claim 1, further comprising a substrate, the battery having a major surface adjacent face-to-face to the substrate; wherein the first thin-film capacitor has a major surface face-to-face adjacent to the substrate beside battery.

20. The apparatus of claim 19, wherein the substrate has a curved shape having a convex face and a concave face, and the battery is located on the concave face.

21. A method for making a combined battery and device apparatus, the method comprising:

providing a substrate; and

depositing a plurality of thin-film layers on the substrate, the plurality of layers forming a solid-state battery and a capacitor electrically connected to one another, the battery including a cathode layer; an anode layer, and an electrolyte layer located between and electrically isolating the anode layer from the cathode layer, wherein the anode or the cathode or both include an intercalation material.

22. The method of claim 21, wherein the providing of the substrate includes providing the substrate that already includes the thin-film solid-state battery including a cathode layer; an anode layer, and an electrolyte layer located between and electrically isolating the anode layer from the cathode layer, wherein the anode or the cathode or both include an intercalation material; and wherein the depositing of the plurality of layers includes depositing one or more layers to form the thin-film capacitor on a surface of the battery.

23. The method of claim 21, wherein the providing of the substrate includes providing the substrate that already includes one or more layers of the thin-film capacitor, and wherein the depositing of the plurality of layers includes depositing one or more layers to form the thin-film solid-state battery on a surface of the substrate including a cathode layer; an anode layer, and an

electrolyte layer located between and electrically isolating the anode layer from the cathode layer, wherein the anode or the cathode or both include an intercalation material.

24. The method of claim 21, further comprising:

attaching an integrated circuit to the combined battery and device apparatus; and

electrically coupling the integrated circuit to the battery and to the capacitor.

25. The method of claim 21, further comprising:

mounting an integrated circuit on the capacitor; and

electrically connecting the integrated circuit to the battery and the capacitor.

26. The method of claim 21, further comprising:

depositing an insulating layer on the combined battery and capacitor; and

depositing a plurality of electrical traces on the insulating layer, wherein at least one of the plurality of electrical traces contacts an electrode of the battery through the insulating layer.

27. The method of claim 21, further comprising:

depositing an insulating layer on the battery and the capacitor;

forming a plurality of electrical traces on the insulating layer;

supporting an integrated circuit on the battery and the capacitor;

electrically connecting a first one of the plurality of electrical traces to the cathode of the battery and the integrated circuit; and

electrically connecting a second one of the plurality of electrical traces to the anode of the battery and the integrated circuit.

28. A method for making a combined battery and device apparatus, the method comprising:

providing a thin-film solid-state battery including a cathode layer; an anode layer, and an electrolyte layer located between and electrically isolating the anode layer from the cathode layer, wherein the anode or the cathode or both include an intercalation material; and

depositing one or more layers to form a thin-film capacitor on a surface of the battery.

29. A method for making a combined battery and device apparatus, the method comprising:

providing a thin-film capacitor; and

depositing one or more layers to form a thin-film solid-state battery on a surface of the capacitor, the battery including a cathode layer; an anode layer, and an electrolyte layer located between and electrically isolating the anode layer from the cathode layer, wherein the anode or the cathode or both include an intercalation material.

30. A method for making a combined battery and device apparatus, the method comprising:

providing a substrate having a major surface area;

depositing a first conductive layer on a first surface area of the substrate's major surface area;

depositing onto the first conductive layer a battery including a cathode layer; an anode layer, and an electrolyte layer located between and electrically isolating the anode layer from the cathode layer, wherein the anode or the cathode or both include an intercalation material, the battery disposed such that either the cathode layer or the anode layer is in electrical contact with the first conductive layer; and

depositing an electrical circuit on the battery, wherein the electrical circuit includes a thin-film capacitor on a surface of the substrate beside the battery.

31 The method of claim 21, wherein the substrate includes an integrated circuit having an insulating layer on the integrated circuit, the insulating layer including a plurality of through vias, the method further comprising:

electrically connecting the cathode of the battery to the integrated circuit though a first one of plurality of through vias; and

electrically connecting the anode of the battery to the integrated circuit though a second one of plurality of through vias.

32 The method of claim 21, wherein the substrate includes an integrated circuit having an insulating layer on the integrated circuit, the insulating layer including a plurality of

through vias, the method further comprising:

depositing an insulating layer over the integrated circuit, the insulating layer including a plurality of through vias;

depositing a cathode-conductor of the battery on the insulating layer;

electrically connecting the cathode-conductor of the battery to the integrated circuit though a first one of plurality of through vias;

depositing the cathode layer of the battery on the cathode conductor;

depositing the electrolyte layer on the cathode layer;

depositing the anode on the electrolyte layer; and

electrically connecting the anode to the integrated circuit though a second one of plurality of through vias.

33. The method of claim 21, wherein the substrate includes an integrated circuit, the method further comprising:

depositing an insulating layer on the integrated circuit, the insulating layer including a plurality of through vias;

depositing a cathode-conductor of the battery on a face of the integrated circuit opposite the insulating layer;

electrically connecting the cathode-conductor of the battery to the integrated circuit though a first one of plurality of through vias;

depositing the cathode layer of the battery on the cathode conductor;

depositing the electrolyte layer on the cathode layer;

depositing the anode on the electrolyte layer; and

electrically connecting the anode to the integrated circuit though a second one of plurality of through vias.

34. The method of claim 21, further comprising:

depositing an insulating layer on the battery that acts as a passivation layer that protects the anode from environmental corrosion; and

depositing a conductive layer to form the capacitor and a plurality of electrical traces on

the insulating layer, wherein at least one of the plurality of electrical traces contacts an electrode of the battery through the insulating layer.

35. The method of claim 21, further comprising:

forming the substrate into a curved shape having a convex face and a concave face; and

locating the battery and the capacitor on the concave face.

36. The method of claim 21, wherein the substrate comprises a polymer having a melting point substantially below 700 degrees centigrade, and the method includes avoiding melting the substrate.

37. A method for making a combined battery and device apparatus, the method comprising:

providing a thin-film solid-state battery on a substrate, the battery including a cathode layer; an anode layer, and an electrolyte layer located between and electrically isolating the anode layer from the cathode layer, wherein the anode or the cathode or both include an intercalation material; and

depositing one or more layers of a thin-film capacitor on the substrate beside the battery.

38. The method of claim 37, further comprising:

attaching an integrated circuit to the combined battery and device apparatus; and

electrically coupling the integrated circuit to the battery and to the capacitor.

39. The method of claim 37, wherein depositing the electrical circuit comprises:

mounting an integrated circuit on the capacitor; and

electrically connecting the integrated circuit to the battery and the capacitor.

40. The method of claim 37, further comprising:

depositing an insulating layer on the battery and the capacitor; and

depositing a plurality of electrical traces on the insulating layer, wherein at least one of the plurality of electrical traces contacts an electrode of the battery through the insulating layer.

41. The method of claim 37, further comprising:

depositing an insulating layer on the battery and the capacitor;

forming a plurality of electrical traces on the insulating layer;

supporting an integrated circuit on the battery and the capacitor;

electrically connecting a first one of the plurality of electrical traces to the cathode of the battery and the integrated circuit; and

electrically connecting a second one of the plurality of electrical traces to the anode of the battery and the integrated circuit.

42. An apparatus for making a combined battery and device apparatus on a substrate, the apparatus comprising:

means for depositing a plurality of thin-film layers on the substrate, the plurality of layers forming a solid-state battery and a capacitor electrically connected to one another, the battery including a cathode layer; an anode layer, and an electrolyte layer located between and electrically isolating the anode layer from the cathode layer, wherein the anode or the cathode or both include an intercalation material.

43. The apparatus of claim 42, wherein the substrate includes a first conductive layer, and wherein the means for depositing comprises:

means for depositing the cathode layer onto the first conductive layer;

means for depositing the electrolyte layer onto the cathode layer; and

means for depositing the anode material onto the electrolyte layer.

44. The apparatus of claim 43, wherein the means for depositing further comprises: means for annealing a surface of the cathode material to a temperature higher than that of materials underlying the cathode layer.

45. The apparatus of claim 42, wherein the means for depositing comprises means for depositing the electrolyte layer onto the first conductive layer and annealing a surface of the

electrolyte layer material to a temperature higher than that of materials underlying the electrolyte layer.

46. A combined battery and device apparatus comprising:

a first structure including:

a substrate having a major surface area;

a first conductive layer adjacent to a first surface area of the substrate's major surface area;

a battery comprising a cathode layer; an anode layer, and an electrolyte layer located between and electrically isolating the anode layer from the cathode layer, the battery disposed such that either the cathode layer or the anode layer is in electrical contact with the first conductive layer, wherein the anode or the cathode or both include an intercalation material;

an electrical circuit adjacent to and electrically connected to the battery; and

a thin-film capacitor adjacent face-to-face to a major surface of the substrate beside the battery.

47. A combined battery and device apparatus comprising:

a first structure including:

a substrate having a major surface area; and

means deposited by thin-film deposition face-to-face on a first surface area of a major surface area of the substrate for delivering electrochemically derived electrical power and capacitively derived electrical power.

48. The apparatus of claim 47, wherein the means for delivering electrochemically derived electrical power and capacitively derived electrical power further comprises:

an integrated circuit mounted on a capacitor and electrically connected to a battery and the capacitor.

49. The apparatus of claim 47, wherein the means for capacitively derived electrical power further comprises a thin-film capacitor adjacent face-to-face to the substrate, and the means for

delivering electrochemically derived electrical power further comprises a battery, and one of the plurality of layers of the thin-film capacitor and one of the plurality of layers of the battery have substantially identical thicknesses, chemical composition and material characteristics.

50. The apparatus of claim 49, wherein two or more of the plurality of layers of the thin-film capacitor have a composition substantially identical to and a thickness substantially identical to two or more respective layers of the plurality of layers of the battery.

51. The apparatus of claim 47, wherein the anode includes a lithium-intercalation material.

52. The apparatus of claim 47, wherein the cathode includes a lithium-intercalation material.

53. The apparatus of claim 47, wherein the solid-state electrolyte layer includes a LiPON material.

54. The apparatus of claim 47, wherein the anode includes a lithium-intercalation material, the cathode includes a lithium-intercalation material, and the solid-state electrolyte layer includes a LiPON material.